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Equal and Universal Access? Water at Mealtimes, Inequalities, and the Challenge for Schools in Poor and Rural Communities

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Abstract

As a result of the rising national obesity rates, public health researchers and advocates have initiated a number of obesity prevention interventions to reduce the rates of overweight and obesity along with their related medical conditions and costs. Policymakers have also initiated a wide range of environmental and policies to support healthy eating and physical activity. Policies such as California's SB1413, which requires that free drinking water be served in school cafeterias during mealtimes, and subsequently the Healthy Hunger-Free Kids Act of 2010, assume an equal access to safe and healthy drinking water. As a result, these policies and their application may unintentionally, exacerbate the inequities already present. Unless we take reasonable steps to address the needs of high-need communities, these one-size-fits-all policy efforts may result in an unequal patchwork of disparities and may have a greater negative impact in high-need poor and rural areas.

Keywords

Inequalities; policy; rural health; obesity prevention

In the rural, largely Latino town of Seville in the heart of California's San Joaquin Valley, Christopher Kemper, the superintendent and principal at Stone Corral Elementary must choose between making water available to his students or making educational purchases. In this town of fewer than 6,000 residents, school drinking fountains are off limits due to contaminated tap water. Bottled water is the only alternative: "I could have bought a whole new language arts series for the cost of that water," he said.¹ In another nearby community where water fountains are also shut off due to water contamination, students who want to avoid thirst during gym class would need to purchase drinks they cannot afford.²

With steeply rising obesity rates continuing to drive up health care costs, both local schools and local health departments are challenged to do something to address the problem.³

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School and public health advocates, local officials, and communities have initiated several new policies that limit access to unhealthy beverages and foods. California's Senate Bill 1413 of 2010, which requires school districts to offer free fresh water at mealtimes, is one such effort.^{4,5} Yet the approval of SB1413 is creating new problems for thousands of California children living in communities with unsafe water. As policymakers search for new means of reducing the intake of obesity-associated sugar-sweetened beverages, some strategies will introduce unanticipated public health and financial challenges, a dilemma that will likely play itself out nationally under section 203 of the Healthy, Hungry-Free Kids Act of 2010.⁶ This policy could exacerbate the disparities already facing rural and other resource-poor communities across the nation.

Overweight, obesity, and physical inactivity are major risk factors for many health conditions related to premature illness, disability, and death — among them, coronary heart disease, type 2 diabetes, some forms of cancer, and stroke.⁷ Increasing obesity rates over the past 30 years have contributed to unsustainable increases in this nation's health care costs.^{8,9} Public health researchers and advocates have responded to this crisis by initiating programs and interventions to curb obesity. A particular priority has been school-based initiatives to support healthier environments for children aimed at preventing childhood obesity, the greatest predictor of obesity in adulthood.^{10,11,12,13,14} These obesity prevention interventions for school-aged children have focused on decreasing television viewing, decreasing consumption of high-fat foods, decreasing consumption of sugared beverages, increasing fruit and vegetable intake, and increasing moderate and vigorous physical activity.^{15,16} Importantly, however, the diversity in scope and quality of these interventions have been limited to demonstrate effectiveness of the interventions.^{17,18,19}

Policymakers have begun to enact dietary initiatives aimed obesity prevention in counties and schools throughout the United States. These diverse policies include prohibiting sugar-sweetened beverages in public schools, prohibiting "unhealthy" packaged meals for children from providing a toy incentive, restricting the establishment of new fast-food outlets in areas around schools and recreation centers, disallowing sugared beverages from being purchased with food stamps, banning cupcakes and donuts from events during the school day, placing restrictions on items available at government-owned vending machines, and requiring the posting of detailed nutritional information.^{20,21,22,23} Many of these initiatives are piecemeal, often addressing only one part of this complex problem at a time. Even when a more comprehensive policy solution may be available, the scope of enforcement will determine the effectiveness of the policy itself. This diversity of approaches, their scope, level of enforcement, rigor, and time of implementation present significant challenges to the application of evidence-based public health research.

Local and statewide efforts throughout the United States increasingly target the consumption of sugar-sweetened beverages (SSB), including soda, sports drinks, and juice. Growing evidence links consumption of these beverages to obesity.²⁴ Reducing the consumption of SSBs is often linked to the promotion of water as a healthy, alternative beverage as an approach to combat obesity.²⁵ In fact, recent research has found that SSBs represent 35% of all beverage weight consumed and substituting water for SSBs could result in 235 fewer excess calories per day being consumed by children and adolescents.²⁶ In an effort to fight

childhood obesity, California SB 1413 requires school districts to make water freely available at meal times.

With California leading by example, the federal government has taken notice. The Healthy, Hunger-Free Kids Act of 2010 section 203, modeled after California's SB 1413, now requires schools participating in federal meal programs, such as the National School Lunch Program, to make water available during mealtimes at no cost to students.²⁷ Unlike the California policy which allowed for a one-year waiver, the USDA is urging schools to implement the requirement no later than the beginning of School Year 2011–12. The difficulties that California faces will be typical of the challenges that will soon occur across the country.

While on the surface this California policy seems to show the way to a solution to the growing child obesity problem, it has several glaring flaws. The policy does not provide any funding for schools to make water available, it does not specify how the policy will be enforced, and it does not identify best practices through which schools might effectively improve the consumption of healthy beverages among school age children. Most importantly, the original California policy allowed school governing bodies to request a temporary waiver by adopting a resolution saying it cannot comply for fiscal or health and safety reasons. The provision of safe drinking water through filtration systems, bottled water, or pipe flushing (a high pressure process to improve water quality by removing sand or other water particle deposits) will be a challenge for resource-poor public schools. These schools may be the very ones who require the most assistance as they are more likely to be located in regions where water pollutants such as arsenic exceed regulatory maximum contaminant levels (MCL).²⁸ Providing water at mealtimes may not fix the entire problem of obesity, but it is a reasonable step toward addressing and decreasing the consumption of SSBs among children. The problem is that while this water-promoting policy is intended to address the causes of obesity equitably, it might well fail to reach those communities where obesity is most prevalent. While some schools with contaminated water sources may have the leadership and foresight to shut off access to unsafe water and purchase water for their students, there may also be schools that do not have such resources to shut off water or provide bottled water. Further still, an increase to some of these common water contaminants may place the students at risk for negative health outcomes such as diabetes or cardiovascular diseases that these policies intend to reverse.^{29,30}

The Crisis in the San Joaquin Valley

One region that typifies the national challenges that local communities face are small unincorporated areas such as Mendota, Parlier, East Orosi, Cutler, and Alpaugh, located in California's San Joaquin Valley. Although these communities are in an affluent agricultural region, encompassing eight counties (Kern, Kings, Tulare, Fresno, Madera, Merced, Stanislaus, and San Joaquin), the benefits of agricultural productivity rarely extend to the resident population. Many residents of these areas lack access to safe affordable drinking water. Schools in these communities, including those schools on their own water supply, are known repeat MCL violators and, consequently, are more likely to expose their student populations to unsafe drinking water.³¹ One environmental health unit in the San Joaquin

Valley estimated that as many as 3,000 students attended rural schools exposed to an unsafe water supply.³² These numbers, however, underestimate the magnitude of the problem since they only represent schools in small communities whose water supply was tested by the county environmental health department. Moreover, residents in these communities already have among the lowest income levels and education, combined with high rates of food insecurity, obesity, diabetes, and hypertension.^{32,33,34}

The confluence of the environmental and social conditions present in these communities makes them particularly susceptible to greater disadvantage and health disparities. If this policy truly had been intended to benefit school-age children already overweight or at risk for becoming overweight, then children of these rural, high-obesity, and resource-poor communities should be the highest priority. Under the new policies, however, children in areas without safe drinking water will remain at risk unless these policies begin to address the public infrastructures to supply safe and clean drinking water within these communities.

What may appear as a statewide initiative may, in fact, create a patchwork inequality and may have a greater negative impact in areas where there is already a great need for both obesity prevention efforts and access to safe and clean drinking water. The possible gaps in services and provisions that may emerge as a result of SB1413 is reminiscent of a longer historical pattern of persistent poverty, inequity, systematic de-investment, that resembles what Paul Farmer calls “structural violence” or an invisibility of injustice and an encounter with a violent social structure.³⁵

Policies and Production of Inequalities: Implications for the Future

In their testimony before the legislature, officials with the California Department of Public Health testified that:

“...providing free, fresh drinking water...can affect children’s health and well being. Replacing sugar-sweetened beverages with water will help prevent obesity and obesity-related diseases, such as diabetes, hypertension, and heart disease.... This will lead to improve health and academic outcomes for children.”³⁶

Without funding, best practices, or clear enforcement, it is likely that schools in communities where water is already a public health concern will now have to face the economic tradeoff of shutting off their water supply, purchasing safe drinking water for students, or supporting school programs and educational materials.

The following suggestions may help to prevent increasing disparities:

- Prioritize areas with the greatest need. Current data can identify those counties where children are already overweight, consuming unhealthy food and beverages, and where water contamination is problematic. Resource-poor schools in these locations will need more guidance and resources to make free and safe drinking water availability. For example, include a provision to provide funding if purchasing of water is the only reasonable option available to schools.

- Develop evidence-based practices to identify the best delivery methods and characteristics likely to increase consumption of water and decrease consumption of SSBs among children.
- Ensure that access/availability during mealtime is included in school district's wellness policies. There is often a need for policy language that goes further by enforcing regular water testing and scheduled maintenance on all water systems.

As public health concerns are increasingly incorporated into well-intended policies it is critical to avoid inadvertently reproducing inequities. After all, the real litmus test for an equitable and socially just public health system is found not in what we say, but in what we do. The treatment of the most marginalized members of our society defines the extent to which we can call ourselves an inclusive and equitable society.

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Notes

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Table 1**DEMOGRAPHIC AND HEALTH OUTCOME CHARACTERISTICS SAN JOAQUIN VALLEY, CALIFORNIA, AND UNITED STATES**

	San Joaquin Valley ^a	California ^a	United States ^b
Population under 18 yrs	31.0%	26.2%	17.3% ^c
White (%)	39.8%	42.3%	64.9% ^c
Latino (%)	46.6%	36.8%	15.8% ^c
Less than HS Education	22.5%	16.3%	8.1%
Annual HH Income <\$ 15,000	18.2%	13.4%	9.0%
Drank 2+ Sodas Yesterday (Child/Teen)	13.7%	14.7%	n/a
Overweight/Obesity Teen & Adult	58.1%	51.4%	63.1%
Diabetes	8.6%	8.5%	8.3%
High Blood Pressure	28.2%	26.6%	28.7%

^aCalifornia Health Interview, 2009^bBRFSS 2009 unless otherwise noted^c2009 American Community Survey.

yrs=years of age

HS=High School

HH=Household

BRFSS=Behavioral Risk Factor Surveillance System

n/a=not applicable